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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,853

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EXAMINER

RAHLL, JERRY T

ART UNIT

PAPER NUMBER

2874

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,853	<b>Applicant(s)</b> RASMUSSEN ET AL.	
	<b>Examiner</b> JERRY T. RAHLL	<b>Art Unit</b> 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 15-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13, 15 and 19 is/are rejected.
- 7) ☒ Claim(s) 11, 12 and 16-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-13 and 15-19, received September 30, 2008, have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2-13 and 16-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 16 and 19 refer to "the respective feedback signals" and "each feedback loop", respectively. There is insufficient antecedent basis for this limitation in the claim. The amended language of the claims does not describe multiple feedback signals or loops. Claims 2-13 and 17-18 depend from Claims 16 or 19, and therefore, include the indefinite limitations.

5. For examination purposes, any feedback signal or loop will be considered to meet the limitations of the claims.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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7. Claims 1-4, 13, 15, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 6,339,489 to Buyere et al.
8. Regarding Claim 1, Buyere describes a PMD compensator (see Fig 2) including a polarization controller (FPC1) rotating a polarization angle of an input optical signal (on LF) and outputting polarization controlled light, a PMD compensating device (DDG2) compensating a PMD of the polarization controlled light, a signal quality monitor (SCU2) measuring a DOP of PMD compensated light and generating a feedback signal (FB1, FB2) indicating the measured DOP of the PMD compensated light, and a control unit (CU) controlling the polarization controller and the PMD compensating device based on the measure DOP.
9. Claims 2-4, 13, and 19 describe the compensator or signal quality monitor using functional language. While this is proper, the described device must distinguish from the prior art based on structural differences (see MPEP § 2114). There is no structural element of these claims not described by Buyere. Therefore, the claims are anticipated.
10. Further regarding Claim 13, Buyere describes the signal quality monitor including a polarimeter (PO with D2).
11. Claims 15 is a method embodied in the device described by Claim 1. As such, Claims 15 is anticipated for the same reasons as Claim 1, described above.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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**13.** Claims 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buyere et al.

**14.** Regarding Claims 5-8, polarization controllers comprising controllable birefringent elements of three-electrode sections of LiNbO<sub>3</sub> substrate are well-known in the art. Therefore, at the time of invention, it would have been obvious to one of ordinary skill in the art to use such a polarization controller structure to allow for electrical control of polarization.

**15.** Further, Claim 8 describes the control unit using functional language. While this is proper, the described device must distinguish from the prior art based on structural differences (see MPEP § 2114). There is no structural element of these claims not described by Buyere. Therefore, the claims are obvious.

**16.** Regarding Claims 9-10, dispersion compensation via fixed or adjustable differential group delay is well-known in the art. Therefore, at the time of invention, it would have been obvious to one of ordinary skill in the art to use such compensation means to allow for improved signal communication.

***Allowable Subject Matter***

**17.** Claims 11-12 and 16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**18.** Claims 11-12 describe the control unit determining the amount of change of the differential group delay for each feedback loop by evaluating past changes of the differential group delay. The prior art does not describe any means for such comparison in conjunction with the other limitations of the claims.

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**19.** Claims 16-17 describe comparing a difference between a max and min of degree of polarization with a threshold value, and then increasing the amount of change when the difference is greater than the threshold value. The prior art does not teach the use of such a threshold value.

**20.** Claim 18 describes marking change of the control signal leading to a worse compensation and skipping a control step with the marked change in succeeding feedback loops. The prior art does not describe skipping a control step in certain feedback loops.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JERRY T. RAHLL whose telephone number is (571)272-2356.

The examiner can normally be reached on M-F (9:00-5:00).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Le Uyen-Chau can be reached on 571-272-2397. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jerry T Rahl/  
Primary Examiner, Art Unit 2874